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Does health-related content in a major Ugandan newspaper reflect the changing burden of disease in East Africa?

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Abstract

Disease burden in urban sub-Saharan Africa is changing rapidly. Mortality and morbidity from chronic physical disease (e.g. heart, disease, stroke and cancer) is rising rapidly and believed to be as great as from infections (e.g. malaria, HIV and tuberculosis). Other increasing disease burdens in sub Saharan Africa include mental illness, substance abuse and accidents, especially road traffic collisions (RTC). Newspaper readership is rising in Uganda. This study used content analysis to examine health-related coverage in one major Ugandan newspaper (New Vision). 29 consecutive paper copies from September/October 2013 were examined independently by two researchers. Health-related articles were identified, counted and coded according to clinical content. Clinical and healthcare-related coverage was present in every edition and represented approximate proportions of 2.6% and 0.4% respectively of total newspaper content. Of 214 news articles identified, these covered the following clinical themes: general well-being (15.4%), healthcare services (14.5%), HIV (12.1%), violence/accidents (11.2%), chronic physical disease (11.2%), sexual, maternal and reproductive health (SMRH) (10.8%), non-HIV infective diseases (10.8%), malnutrition (7.9%), substance misuse (3.3%) and mental health (2.8%). Coverage of RTCs, alcohol, smoking, and cancers other than of the breast and cervix was minimal. Health-related content was dominated by infections, healthcare quality, general wellbeing, SMRH and malnutrition. This does not represent the changing burden of disease in Uganda. There may be scope for targeted interventions with editors to promote coverage of growing challenges, including lifestyle advice to prevent chronic diseases.

Key Words: mass media, Uganda, medical journalism, newspapers, healthcare, chronic disease, mental health, road safety, substance abuse, malnutrition

Background

Non-communicable diseases are increasingly prevalent in sub-Saharan Africa, particularly in urban areas, and there is a need for more research into how the media in this region deliver messages about these

conditions. Despite on-going challenges of infectious diseases and malnutrition, sub Saharan Africa now has higher age specific male and female mortality rates from chronic diseases than almost all other regions of the world and by 2020 the continent is projected to experience the largest increase in death rates from

cardiovascular disease, cancer, respiratory disease and diabetes (De Graft Aikins *et al.*, 2010). This new landscape is already evident in Uganda in the form of rising rates of hypertension, diabetes and various cancers (Musinguzi, Nuwaha, 2013; Shaw, Secree & Immet, 2009). In Uganda's capital, Kampala, there are increasing rates among men of cancers of the prostate, oesophagus, liver, large bowel, stomach, and nasopharynx and among women the cervix, breast, oesophagus, liver and lung (Wabinga *et al.*, 2014). The rapid rise of these chronic physical conditions is closely linked to the global epidemic of obesity, a condition that is increasingly seen in young Ugandan adults (Baalwa, Byarugaba, Kabagambe & Otim, 2010) and attributed to poor diet and lack of exercise. A further driver of the chronic disease epidemic is tobacco use. Nearly 15% of Ugandan men aged 15-49 smoke tobacco, particularly in rural areas (UBOS, 2012). Other rising disease burdens in Uganda include mental illness, substance abuse and injuries from accidents, in particular road traffic collisions (RTCs) (Schwartz, Guwatudde, Nugent & Kizza, 2014). Death from RTCs rose from 2,597 in 2007 to 3,343 in 2011 (URSSI, 2012). It is unknown whether this transition from infectious diseases to chronic conditions, mental health problems and RTCs is recognised by African journalists and reflected in media content.

Despite an exponential rise in the use of mobile phones in Africa, newspaper readership is increasing in East Africa due to an expanding middle class and prohibitive costs of web access (Economist, 2013). Newspapers are widely read in Uganda, particularly in urban areas, where 60.3% and 36.9% of men and women respectively report reading one at least weekly (UBOS, 2012). Reading a newspaper is most common among young Ugandans, with the highest levels in men aged 25-29 (29.5%) and women aged 15-19 (23.3%) (UBOS, 2012). Mass media are considered to influence individuals' beliefs about illness and their health behaviours in both Uganda and Europe (UBOS, 2012; Kigozi, Ssebunnya, Kizza & Ndyabangi, 2010; Asp, Petterson, Sandberg, Kabakyenga & Agardh, 2014; Lyons, 2000). In addition to providing information, it is recognized that mass media have a role in challenging popular prejudice, provoking debate and combating stigma experienced by patients, for example with regard to mental illness (Salter & Byrne, 2000). One reason for that lies in evidence from the USA that newspapers are a relatively important and trusted resource for health information, even among young people (Rideout, 2001). Such faith, however, exists despite journalists perceiving their own roles as news reporters to be distinct – and at arm's length – from health promotion (Holtz, 2010). What is more, medical doctors report concern over quality of medical content in the media (Basky, 1999) and it is

recognised that organisational and economic barriers exist to high quality health journalism. For example, one study with health journalists from diverse countries identified the following practical challenges: lack of time, space and knowledge, competition for content and audience; difficulties with terminology; challenges to identifying sources, problems with editors and commercial pressures (Larsson, Oxman, Carling & Herrin, 2003).

These issues are consistent with evidence from Africa that the quality of media health messages is low and focused on healthcare system quality or medical news stories that lack analytical depth (Radu & Banjac, 2012). Challenges specific to effective health journalism in Africa include a lack of professionalism arising from insufficient specialist training and remuneration (Tshabangu, 2013). There is only limited evidence about the way Africans perceive and interpret health-related content in newspapers (Kigozi, Ssebunnya, Kizza & Ndyabangi, 2010). For these reasons, there has been a call for further research to consider health-related content in newspapers in African countries such as Uganda (Ybarra, Emenyonu, Nansera, Kiwanuka & Bangsberg, 2008).

While it is already recognized that coverage of mental health in Ugandan newspapers is low (Kigozi, Ssebunnya, Kizza & Ndyabangi, 2010), it is unknown to what extent and in what way rapidly increasing conditions such as common chronic diseases (e.g. hypertension, diabetes, cancer), obesity, injuries from RTCs and substance abuse are represented in African media. In order to start addressing that, the present study examined health and healthcare media content in New Vision, Uganda's most widely read anglophone daily newspaper with an average circulation of 34,476 (Vision Group, 2013). As English is the medium of secondary school education and widely used in government and commerce, this approach sought to explore health messages largely aimed at educated Ugandans, especially those in urban areas (Tembe, 2006).

Method

Original paper copies of New Vision were collected in Uganda during a consecutive 29 day series (Sept. 13 to Oct.13, 2013). The newspapers were examined independently in England by two researchers (RA and MC) to identify, count and categorize articles covering health and healthcare systems using content analysis. This is a recognized method for identifying and analysing the content of text that includes quantitative and qualitative approaches (Neuman, 1997; Mcnamara, 2005). Both approaches were employed in the present study with the specific aim of examining to what extent

New Vision covered *emerging* health challenges (chronic physical conditions, road safety, mental health and substance abuse) in contrast to longstanding infectious disease burdens (i.e. HIV, other infectious diseases, SMRH etc). Given evidence that in sub Saharan Africa, chronic physical disease rates are on a par with infectious ones (De Graft Aikins et al., 2010) it was hypothesized that representation of these two, at least, should be weighted similarly. Further aims were to quantify and explore coverage relating to other important clinical conditions (mental health, substance abuse etc), RTCs and healthcare services.

Health and healthcare content was defined respectively as any editorial, news report, advertisement or notice with subject matter concerning either: i) a named illness, symptom or injury or ii) the provision of healthcare or the activity of workers in such services. Inclusion and exclusion criteria are provided in Table 1. Supplements (e.g. on sport or lifestyle) that were purchased as part of a given edition were included in the study. Weblinks to online material were not examined. The Research Governance and Ethics Committee of Brighton and Sussex Medical School, England, provided

written confirmation that approval was not necessary for this study.

Relevant articles were shared with other team members (SS and DL) for review. Through detailed reading and consultation between team members, content analysis was used to categorise each under one of nine apriori clinical categories. These were used to contrast coverage of emerging conditions (Chronic physical disease, Mental health, Substance misuse) with longstanding ones (HIV, Non-HIV infective diseases, and Sexual, maternal and reproductive health (SMRH)). The other three categories were: General well-being, Violence/accidents, and Healthcare services. Where articles contained clinical and healthcare system content they were categorized under the former as that was the main focus of the present study. It was also noted where content was likely to have been purchased (advertisements, death announcements or public notices), i.e. content not entirely under the editor's control. Purchased content was, therefore, considered separately. Where there was disagreement over article inclusion or content, this was discussed between research team members in order to reach a consensus.

Table 1 *Article selection: Inclusion and exclusion criteria*

Inclusion criteria
<ul style="list-style-type: none"> • All health and healthcare-related articles, including biomedical and traditional/herbal forms • Accidents and injuries, e.g. RTC where there was injury or key focus on safety • Death announcements (either news pieces or family announcements) • Advertisements for healthcare services or medication • Health promotion notices
Exclusion criteria:
<ul style="list-style-type: none"> • Non-healthcare infrastructure (e.g. quality of water supply, sanitation, housing quality and general hygiene) except where clearly associated with specific health conditions • Healthcare purely as an example of business entrepreneurship • Job advertisements in healthcare • Advertisements for purchase/sale of hospital equipment/property • Death or injury through war or terrorism • Relationship advice without specific reference to physical or mental illness • Articles relating solely to witchcraft or cannibalism • Non-zoonotic disease in animals

Results

Health and healthcare issues were identified in each of the 29 newspapers examined. These are illustrated in Tables 2-4 and throughout the Results section using article titles. Where necessary, titles have been amended with square brackets to clarify their meaning or to remove names. A total of 232 relevant items were found, of which 214 represented news content and 18 that had been purchased (10 advertisements for products/services, 5 health promotion

notices and 3 obituaries). The latter are considered later separately as their content was not directly under the editor's control.

183/214 (85.5%) articles named a specific disorder or contained clinically relevant information. Conversely 31/214 (14.5%) could not be linked to any specific medical condition as they only addressed healthcare service issues. Editions consisted of approximately 55 pages and, using five random copies, the total number of article "spaces" (i.e. a portion of a

page with its own heading, sub-heading or separate box) per edition was calculated to be approximately 240 per edition. This would indicate an estimate of overall health and healthcare coverage of 2.6% and 0.4% respectively. This content was not confined to any regular feature, although five copies included sections to "Ask the doctor/expert". Of these all five included the doctor's name and four gave his/her work place. Elsewhere

health advice was offered by an anonymous "Aunt Anne". Otherwise, health-related content appeared at diverse parts throughout editions; including on the front covers of 5/29 copies (see Table 2). Health and healthcare articles had a clear focus on news from Uganda, neighbouring states or Eastern Africa, with only two articles covering non-African health issues.

Table 2 *Front cover titles relating to health and healthcare*

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- | | |
|----|---|
| a. | "Increasing fistula cases worry doctors" |
| b. | "Government to renovate 47 hospitals" |
| c. | "New smoking style killing Kampalans. Doctors warn shisha deathtrap" |
| d. | "New degree starts" [to train doctors specialized in treating bomb victims] |
| e. | "Special report. A night in Mulago labour unit. Mothers sleep on the floor with newborns. Doctor refused bribe. Only six midwives for 80 expectant mothers" |
-

Clinical content

Clinical articles were reviewed by the research team and categorized according to the nine apriori themes (Table 3). Most articles clearly fitted one category. Clinical content was dominated by infectious conditions in the form of HIV (26/214 or 12.1%) and other infectious diseases (23/214 or 10.8%). Additional infectious disease content was evident within the theme of Sexual, Reproductive and Maternal health (SRMH) (23/214 or 10.8%). Coverage of infectious disease, therefore, was more than twice that for emerging chronic physical diseases (24/214 or 11.2%). Other significant clinical content covered general well-being (33/214 or 15.4%), violence/accidents/emergencies (24/214 or 11.2%) and malnutrition (17/214 or 7.9%). Of the second category, however, only 6/24 articles related to road traffic collisions (RTCs), a frequency that was similar to coverage of acid attacks (5/24). References to RTCs were often brief descriptions and only one considered the wider issue of road safety. Despite infrequent mention of RTCs, it was notable that nearly half (12/29) of all newspapers included accounts of major practical impediments to travel, typically in the form of images of cars stuck in unusual positions, impassable roads/bridges or passenger discomfort due to overloaded vehicles.

There was little coverage of mental health (6/214 or 2.8%) and only two references to self-harm (eg "Adjumani suicide cases worry police"). References to substance misuse (7/214 or 3.3%) were dominated by behaviours presented as being a new and growing problem. This related mainly to a form of chewable tobacco called "kuber" or shisha smoking and surpassed

coverage of tobacco for which only three brief references were identified. These either listed smoking as a risk factor for cancer/heart disease or, for one, highlighted the risk of infection rather than chronic disease:

"The principal medical officer in charge of Mental Health and Control of Substance Abuse in the health ministry says smoking shisha is as dangerous as cigarettes. 'Tobacco use greatly increases the risk of TB disease and death', she [the Minister] says, adding that more than 20% of TB cases worldwide are attributed to smoking"

Only one reference to the health effects of alcohol was identified ("Alcohol: this ain't no fun"). Reference elsewhere to alcohol appeared to *imply* dangers of alcohol without stating them, for example under the following title: "Arrest those selling alcohol to minors". As a result, the focus was upon legal/practical issues rather than direct health consequences.

Surprisingly, skin problems were referred to only indirectly and were not, therefore, considered as a separate clinical category. That was because the three references related to overwhelming infection ("Jiggers kills two in Kiboga"), providing lifestyle advice for stretch marks ("How do I treat stretch marks?") and one very brief reference to surgery for scars that was not mentioned in its title. Otherwise there was no reference to cosmetic treatment except a sentence within one article that for victims of acid attacks "it is not unusual for a survivor to undergo 20 to 40 surgical procedures over a number of years".

Table 3 Content according to clinical category

Content	Example titles	No of articles	Percentage
Clinical-related content			
General wellbeing (includes non-disease related, weight loss and short-term or non-specific symptoms)	"Boost your Immunity"	33	15.4%
Sexual, Reproductive and Maternal Health	"Delay sex, avoid fistula "	23	10.8%
HIV	" HIV/AIDS battle is still on"	26	12.1%
Violence, accidents and emergencies	"Lightening victims out"	24	11.2%
Non-Communicable Chronic Physical Disease	"Heart Day focuses on women, children"	24	11.2%
Non-HIV Infective Disease	"Lukaya in cholera fear"	23	10.8%
Malnutrition	"Matany Hospital treating malnutrition in Karamoja"	17	7.9%
Substance misuse	"Government bans kuber drug"	7	3.3%
Mental Health	"My son cuts his body"	6	2.8%
Non-illness related content			
Healthcare services	"No free treatment in our hospitals"	31	14.5%
Total		214	100

Coverage of chronic physical diseases

24/214 (11.2%) of articles referred to chronic physical diseases (see Table 4 for examples). These did not specifically highlight rising risk among Black Africans of diabetes, hypertension or stroke. Just five articles mentioned cancer but, surprisingly, only in the title of one ("The cancers eating away at our country's health"). That two page spread focused upon cervical and breast cancer. Elsewhere, reference to common cancers in Uganda was brief, again largely reinforcing that "Uganda's worst cancers are breast and cervical cancer". Despite significant coverage of HIV and other sexually transmitted infections, there was very little mention of the association between certain viruses and cancer causation. There was no coverage of other

cancers reported elsewhere to be on the rise in Uganda such as large bowel or liver neoplasms (Wabinga *et al*, 2014). Conversely, one article linked a rare cancer to a common experience, namely that "loud noise" can increase one's risk of a tumour of the nerve in the ear (acoustic neuroma). Indeed it was noticed that hearing loss and the impact of noise were a recurring theme, considered in 4 articles within this category (e.g. "Should I worry about noise"). There was no discussion of obesity as a driver of cardiovascular disease and cancer. Where weight loss was discussed this was for cosmetic reasons (e.g. "How safe is a drastic diet") rather than for prevention of chronic disease. There was no mention of epilepsy or dementia.

Table 4 *Examples of content relating to chronic physical disease*

Title	Description of content
"Cholesterol: The good, the bad and the ugly"	Discussion on cholesterol
"Run Your Way to a Lean Body"	Running can help reduce risk of osteoporosis, hypertension and diabetes
"How can I help my Diabetic Mother?"	Question about amputation for mother's gangrenous diabetic foot. Advised to control blood pressure and blood sugars, and that amputation could prevent further spread of infection
"Low testosterone"	Discussion on low testosterone levels, such as causing obesity, weight gain and increased risk of Type 2 Diabetes and Ischaemic Heart Disease
"Hope for children, adults living with type 1 diabetes"	Tightly controlled glucose levels has evidence that it helps decrease risk of impaired kidney function, heart disease and stroke
"Essential screening"	Importance of screening people for chronic illnesses such as blood pressure, various cancers, respiratory illnesses
"Heart Day focuses on women, children"	Raising awareness of cardiac and vascular health and disease prevention
"Speech Difficulty: How to tell your child might have delayed speech development"	Methods to determine if child has speech impediments, including psychological and physical causes
"Over 200 get free eye treatment"	200 receive free cataract treatment from German non-governmental organisation
"Aircraft noise linked to higher risk of heart disease and stroke"	Research study indicating that people living near to aircraft noise have increased risk of heart disease and stroke
"Man needs sh54m for kidney transplant"	31 year old with hypertensive end-stage kidney disease in need of an urgent kidney transplant.
"For only sh30 000 you can push Tukahirwa to tomorrow"	Discussion about individual with Systemic Lupus Erythematosus
"Saving [patient's name]"	16 year old had surgery in Minneapolis, USA to fix severe spine deformities thanks to the generosity of Gillette Hospital
"I will fight for children with special needs"	20 year old girl who is living with Tetralogy of Fallot and the struggles she has faced growing up with the condition
"Children to undergo surgery"	10 children to have open heart surgery in India, funded by Indian Association of Uganda.
"MPs mourn fallen colleague"	MP who died from oesophageal cancer and highlighting call for better cancer detection services in Uganda
"Three year-old needs sh77m for surgery"	Girl with brain tumor in need of neurosurgery intervention for brain tumour
"170 get free surgery"	Free surgery by Medical Mission Foundation from U.S. for "scars and hernia"

Representation of health-related content

It was noted that articles frequently offered readers direct health advice, typically relating to lifestyle or diet. This did touch upon prevention of recognized risk factors for physical chronic disease (e.g. "Manage cholesterol with berries") and offered some practical advice (e.g. "How to swallow bitter medicine"). More frequently, however, it considered "lighter" issues in the form of suggestions for non-specific physical symptoms (e.g. "Why do I sweat a lot?"), common psychological problems (e.g. "How can I manage stress with food?"), self-help ("Sleep more, work better") or sex/relationship

advice ("Can a condom cause infection?"). Where hard facts were presented these were typically related to medical advances ("New vaccine type excites HIV scientists") or numbers of cases or deaths ("Deadly disease hits Mubende"). Statistics, it was noticed, were frequently highlighted in articles within separate boxes, seemingly to grab readers' attention. A further strategy to draw the reader's eye appeared to lie in titles that were sensational, vague or did not accurately represent content, for example one piece containing statistics on malnutrition was entitled "We thought our children had been bewitched". Similar strategies were evident where traditional approaches to medicine were mentioned: it

was noted that this could be in a manner that was either negative (e.g. "[Herbal] clinics closed in Kabale") or humorous (e.g. "Witch doctor bitten by snake he tried to tame"). Additional health-related information appeared to present personal opinions (eg. "First Lady Calls for improved HIV tests"), to name victims of accidents (eg. "Soldier killed in crash"), to highlight individuals' desperate plight or philanthropic actions (e.g. "Man needs sh54m for kidney transplant") and to criticise people breaking social norms (e.g. "Insulate all risky sex acts").

Healthcare system content

Healthcare system content was dominated by concerns over service delivery and quality. This was largely negative in tone and consisted of the following areas: insufficient finances (e.g. "Ayivuni health centre in worrying state"), lack of equipment (e.g. "No batteries for Kagadi xray machine"), highlighting suspected corruption (e.g. "Security investigates missing HIV kits"), professionalism issues (e.g. "Central leads in absenteeism of medics") or informing readers about new healthcare services (e.g. "Butabika develops new procedure" [service]). It was noted that comments on the healthcare system appeared to be part of a wider aim of highlighting infrastructure problems in Uganda, for example poor sanitation and transport. The negative nature of this discourse was sometimes evident only by implication in that the title was framed in a positive way, for example: "Mbarara, Kabale hospitals get beds". Gaps in healthcare services were also highlighted by reporting individuals in difficult situations, either directly (e.g. "I will fight for children with special needs") or indirectly through philanthropic acts (e.g. "Children to undergo surgery [in India]"). Conversely, healthcare service problems were infrequently shown in photographs and evident only in one image of queueing patients. That may have been due to lack of time or difficulty gaining permission to capture direct photographic evidence of service failings.

Purchased content

Death notices were identified in 15/29 editions. Of a total of 34 death announcements, only 3 stated a specific cause, namely: "high blood pressure", "unwell for a long time due to injuries sustained after a motor accident [five years earlier]" and terror attack. Although every edition contained advertisements for products or services, only 15 were health-related. Ten of these were for clinical services (hospitals/clinics or treatment "camps" with visiting specialists), medication or related products (e.g. an orthopaedic bed) or services (e.g. paternity testing). Just 5 notices had a clear health promotion aim. These were on behalf of the Ministry of

Health or Non-governmental Organizations (e.g. Marie Stopes international) and considered issues such as fistula treatment, mosquito nets, family planning and child protection.

Discussion

Health and healthcare coverage comprised a small proportion (3%) of overall content in this newspaper but was a frequent and diverse topic. This figure is less than that reported in Zambia of 6% for a range of media, including some newspapers (Radu W & Banjac S, 2012). In the present study, healthcare service quality represented only 0.4% of *total* newspaper content, although this is likely to be an underestimate due to the present study's focus upon coverage of clinical content. Total clinical content (2.6%) covered a wide range of conditions and was dominated by infections (HIV, other infections, and SRMH), non-specific/short-term symptoms (general wellbeing), malnutrition and healthcare service issues. Despite some coverage of emerging chronic diseases and a strong focus upon local news, this picture does not reflect the changing burden of disease in Uganda from infectious to non-communicable disease. This also supports others' finding that mental health is underrepresented in Ugandan media (Kigozi, Ssebunnya, Kizza & Ndayanabangi, 2010) and suggests it is also true for RTCs and key non-communicable diseases. Although there was some coverage of chronic disease, specific gaps were evident around cancers other than breast and cervix, dementia, epilepsy and growing risks among young sub-Saharan Africans of hypertension and diabetes. While this newspaper series offered readers advice on lifestyle to promote health, this was largely based upon common symptoms and dietary advice rather than specific prevention of major chronic diseases, such as weight loss and physical exercise. Other areas with limited coverage were self-harm and health risks from tobacco and alcohol.

Lack of focus on emerging health issues could be explained in a number of ways. First, editors may not possess an overall picture of the evolving burden of disease in Uganda, perhaps by dint of belonging to a social elite or being non-African. Second, patterns of coverage may simply represent personal preferences of editors, a phenomenon reported to take place in Uganda with regard to mental health coverage (Kigozi, Ssebunnya, Kizza & Ndayanabangi, 2010). In the present study, advice on general well-being, non-specific symptoms and lifestyle comprised a common dimension of health-related content and could simply represent editors' attempts to engage with middle class, office-based readers. Ugandan editors have also been reported to prefer sensational topics in order to attract

readers' attention (Kigozi, Ssebunnya, Kizza & Ndayanabangi, 2010) and this was evident here in coverage of shock stories such as acid attacks and new forms of substance abuse. A preference for sensationalism could also explain limited coverage of chronic diseases: editors may consider them as less newsworthy in view of their silent onset and asymptomatic nature. Minimal coverage of RTCs, however, appears to contradict an apparent desire for sensationalism but could be based upon the assumption that - as a common and very traumatic event - detailed reports of RTCs may be distressing and off-putting to a significant number of readers.

It was surprising that only ten advertisements for healthcare products and services were identified. That is because the readership is clearly English-speaking, a marker in Uganda of being educated and a sign of social prestige (Tembe, 2006). This finding may reflect the fact that in Uganda health services are largely government funded (Zikusooka, Kyomuhang, Orem & Tumwine, 2009). A further observation was the absence of advertisements for traditional healers. It appears that the newspaper studied targets a middle class readership with a preference for biomedical treatment but without resources to access private clinics. It also suggests that traditional healers advertise their services and products elsewhere, possibly in non-English papers.

The categories of health-related content developed in this study can be used to compare and contrast these findings with newspapers from other countries, including those published in African languages. There should also be greater consideration of the influence of governmental and non-governmental health organizations upon newspaper content. This can go hand-in-hand with exploration of the way that East Africans access and interpret health information in the media, in particular as web-based sources become more affordable. Finally, future studies could examine whether targeted promotion among newspaper editors about chronic disease risks facing Africans would lead to increased media coverage. The finding from the present study of significant levels of lifestyle advice suggests that editors might be most open to highlighting preventive behaviours for common chronic diseases in Africa, such as hypertension, stroke, and Type 2 Diabetes.

Study limitations

This exploratory study is limited by being a one month snapshot of a single, English language paper. As such, it is unlikely to represent media in African languages or website-based and social media content. A further limitation was that the study period overlapped with Ugandan Independence day and the Westgate terrorist attacks in Nairobi, Kenya, an event that

dominated world news. Finally, the study did not include a word count of health-related content to assess the size and relative visual impact of health-related pieces. That may have been negated by the observation that titles appeared to compete for readers' attention and therefore small articles might, in fact, actually be more prominent to readers.

Conclusion

This study combined qualitative and quantitative methods to assess health- and healthcare-related content in one Ugandan newspaper. The comparison of coverage of established and emerging disease burden represents a novel approach. Coverage in this newspaper includes a proportionally small, frequent and diverse quantity of health-related content. This is focused upon the East African context and largely considers infectious diseases (especially HIV), general wellbeing, quality of healthcare services, SRMH and some accidents/injuries. Despite limited content about breast and cervical cancers, there was minimal coverage of emerging malignancies, rising rates of hypertension and growing challenges relating to RTCs, mental health, self-harm, alcohol and tobacco. This coverage does not reflect the new burden of disease in East Africa. That may be because - despite being an emerging and growing epidemic in sub-Saharan Africa - chronic diseases inherently lack newsworthiness by dint of their insidious onset and asymptomatic nature. Given evidence of low awareness of chronic disease risk among sub-Saharan Africans (Cooper, Harding, Mullen & O'Donnell, 2012), this finding would support the notion that newspapers largely reflect popular opinion rather than seek to change it. Clinical content in this paper appears to be determined by editors' personal preference arising from a perception of infection as the dominant disease burden, the desire to reach a wide readership by providing general advice on lifestyle and common symptoms, use of sensationalism and a wish not to put off readers by provoking distress.

There may be scope to shape health-related content in African newspapers by providing targeted information to editors about emerging health risks and their prevention in a way that is valued by readers. This notion is consistent with evidence that journalists express a willingness to participate in similar interventions (Larsson et al., 2003), although that finding may not extend to editors who do not specialise in health-related content. Future studies should explore the ways urban Africans access and interpret media messages about health with particular regard to the expanding use of web-based sources. Likewise, research should consider novel strategies to improve health-related content in newspapers by exploring the

practical challenges facing editors in Africa, including those publishing in languages other than English.

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